HELENA ISAKSSON (née Rehnberg) is a registered Biomedical Laboratory Scientist. She graduated from Örebro University in 2001 with a B.Sc. Directly after graduation she began to work at the Dep of Laboratory Medicine, section for Clinical Chemistry at Örebro University hospital. The clinical work has always been combined with her own research and occasional teaching assignments. Today she coordinates the Clinical Studies and Research division at the Clinical Chemistry lab and is an assistant Biobank Coordinator at Örebro University Hospital, Sweden.

Technologies for RNA detection are evolving rapidly and gives an opportunity for discovery of new markers for early detection of complex diseases. Today in clinical work we rely on signs and symptoms in combination with the measurement of protein levels for diagnosis. The quick turnaround time of mRNA synthesis may provide an earlier diagnostic signal than protein-based biomarkers assays, in acute dramatic conditions such as acute mesenteric ischemia, for early detection of cancer, as prognostic tool in cancer treatment and as an aid in difficult diagnosis of unknown origin.

The main goals of this thesis was to apply a whole genome approach to study different complex diseases to evaluate the applicability of RNA as a diagnostic or prognostic marker for disease, preferably from an easily accessible source such as peripheral blood.